

GSFC Mass Spectrometer Development Team (Present and Near Past)

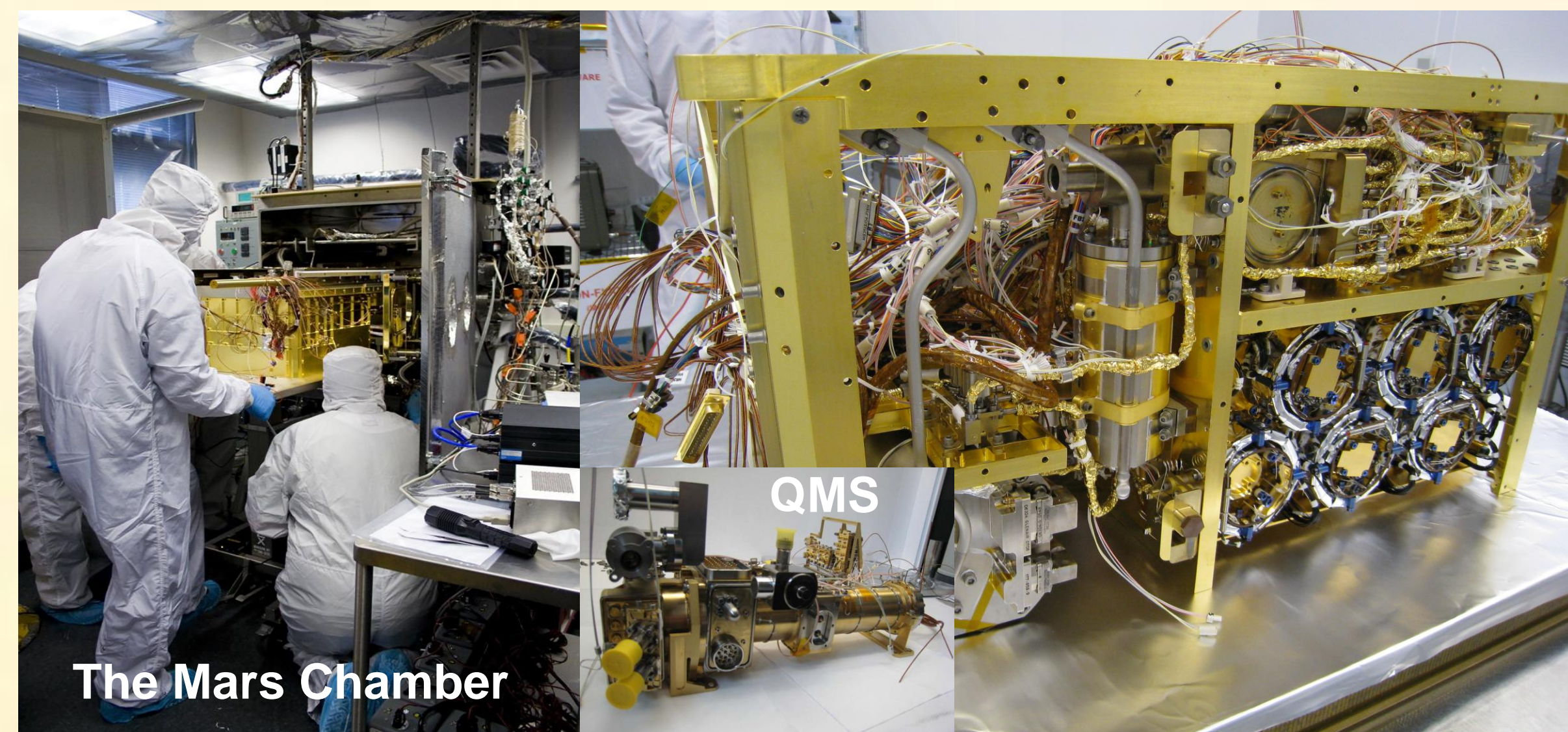


Paul Mahaffy/699
Instrument scientist and
SAM principal
investigator, 699 lab chief



**Bob Arvey/540-Ball
Aerospace**
Senior electronics
technician, flight hardware
assembly and testing

Sample Analysis at Mars (SAM) Instrument Suite



The Mars Chamber

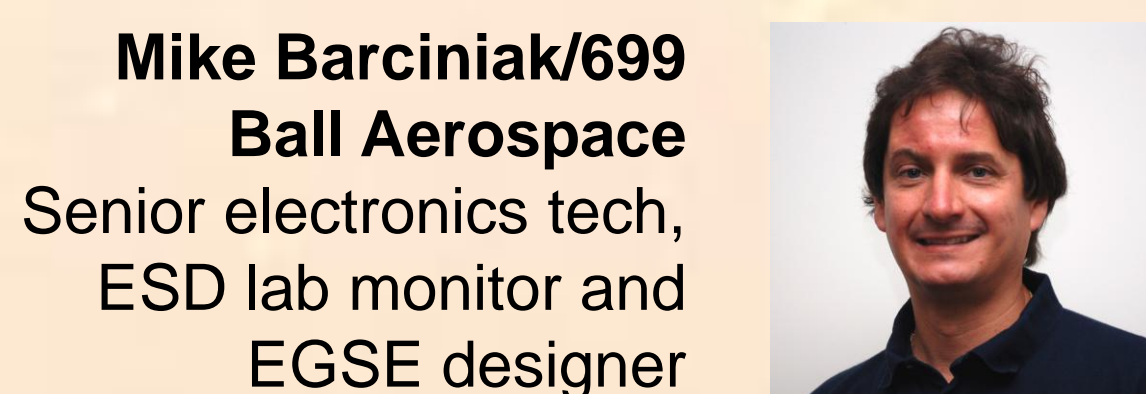
The **Planetary Environments Laboratory** team and partners have successfully built and flown mass spectrometer instruments for measuring gas composition on a variety of Earth and planetary missions since the 1960's. Earth instruments include Atmospheric Explorers B, C, D and E, and Dynamics Explorer. Other planetary atmosphere instruments include the lower atmospheres of Jupiter (Galileo Probe) and of Titan (Huygens Probe, gas chromatograph mass spectrometer, GCMS); the upper atmospheres of Venus (Pioneer Venus Orbiter Neutral Mass Spectrometer, NMS) and Mars (Nozomi), the upper atmosphere of Titan (Cassini Ion and Neutral Mass Spectrometer, INMS); and a comet flyby Neutral Gas and Ion Mass Spectrometer (NGIMS) instrument for the CONTOUR mission. Currently, GSFC is developing a GCMS for the Sample Analysis at Mars (SAM) instrument on the Mars Science Laboratory and mass spectrometers for the upcoming LADEE lunar orbiter and MAVEN Mars aeronomy missions.



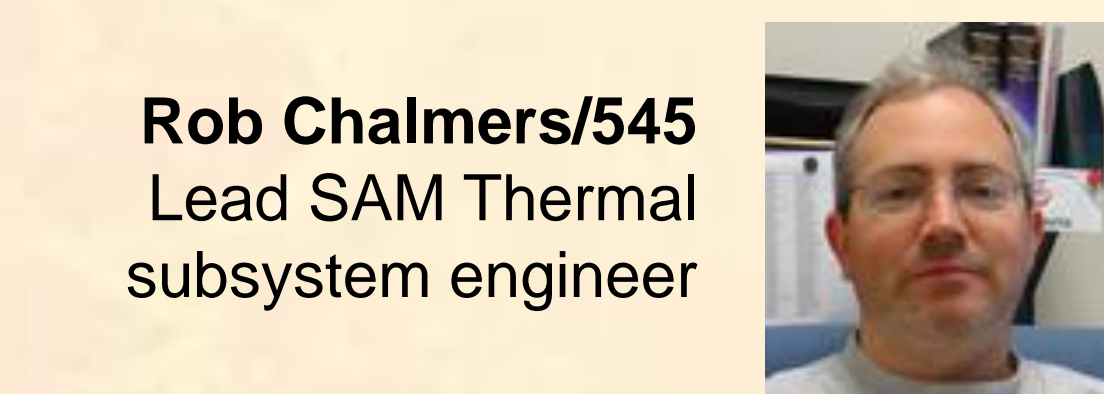
Dave McClieb/540-SGT
SAM engineering
technician



Florence Tan/565
Electronics engineer for
SAM, LADEE NMS and
MAVEN NGIMS, aka "Queen
of Everything"



**Mike Barciniak/699
Ball Aerospace**
Senior electronics tech,
ESD lab monitor and
EGSE designer



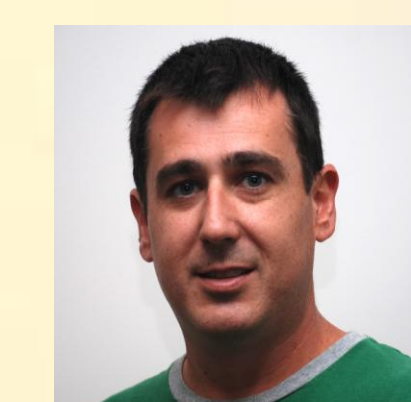
Rob Chalmers/545
Lead SAM Thermal
subsystem engineer



**Vince Holmes/543-
Bastion Technologies**
Lead mechanical design
for SAM, LADEE NMS and
MAVIN NGIMS .



John Bishop/540-QINETIQ
Engineering technician and
expert cup loader, aka "Mr.
Hands"

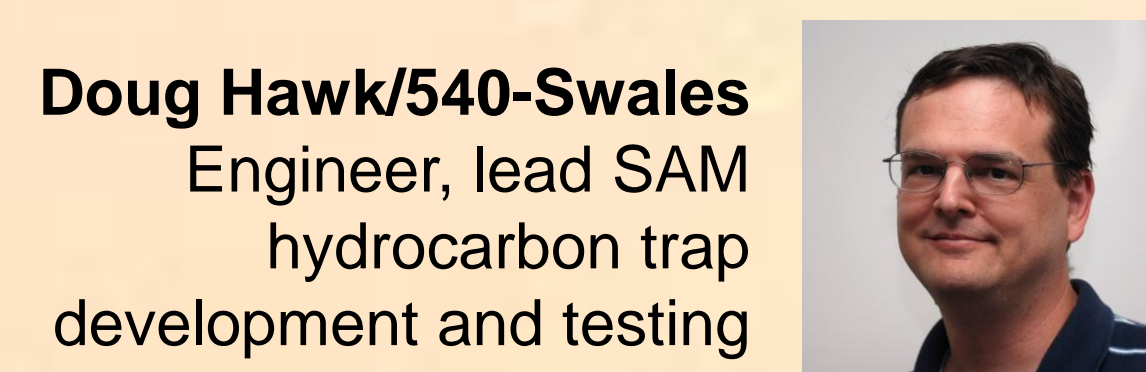


**Pete Piazza/547-
Oceaneering**
Senior mechanical
technician

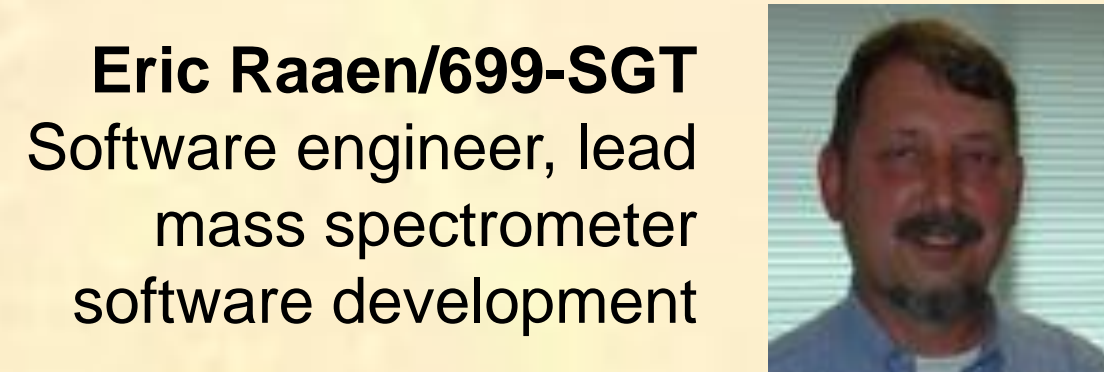


Kiran Patel/699-Mantech
Software engineer,
development of lab and
ground support equipment

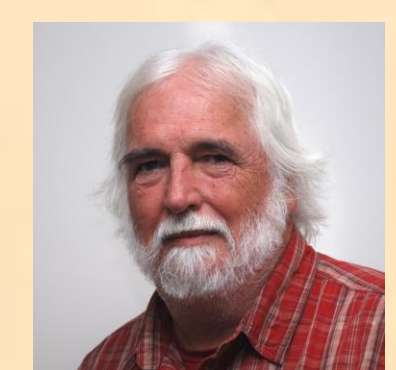
Dan Harpold/699
QMS lead and expert,
contracting officer's
technical representative
for contracts



Doug Hawk/540-Swales
Engineer, lead SAM
hydrocarbon trap
development and testing



Eric Raaen/699-SGT
Software engineer, lead
mass spectrometer
software development



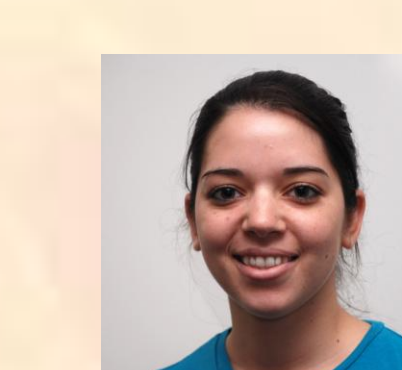
**Roger Counts/323-
Mantech**
Quality engineer, SAM
lead quality assurance



**Greg Francisco/540-
QINETIQ**
Engineering technician, aka
"Chris' right hand man"

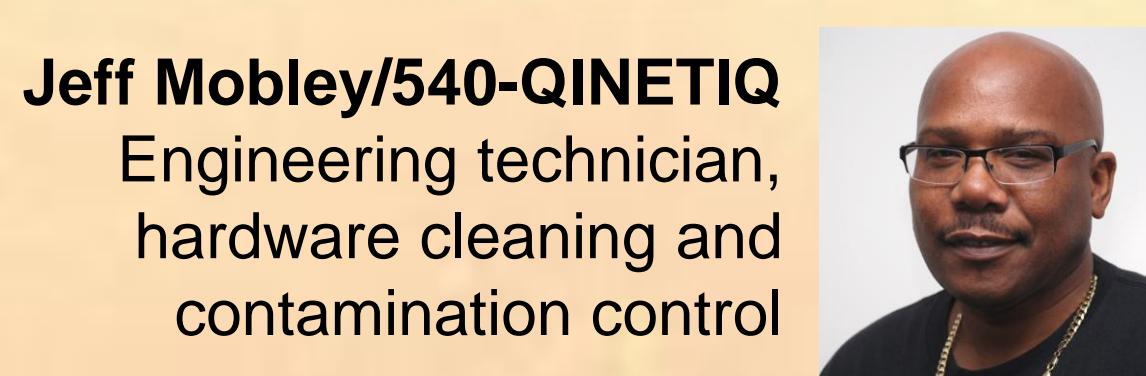


Dennis Nehl/Bastion
Instrument technician,
SAM environmental
testing, aka "Chris' left
hand man"

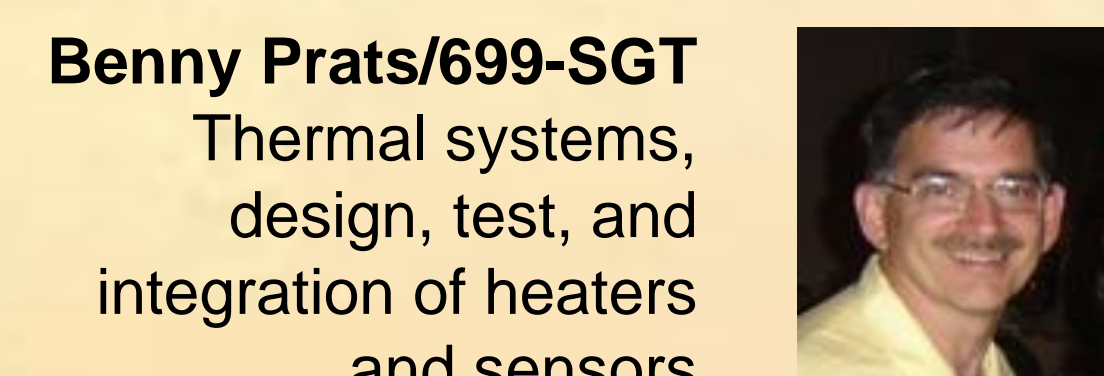


Todd King/556
Materials engineer,
LADEE NMS and MAVEN
NGIMS instrument
manager

**Rebecca Prats/699-
Northrup Grumman**
SAM configuration control
and documentation



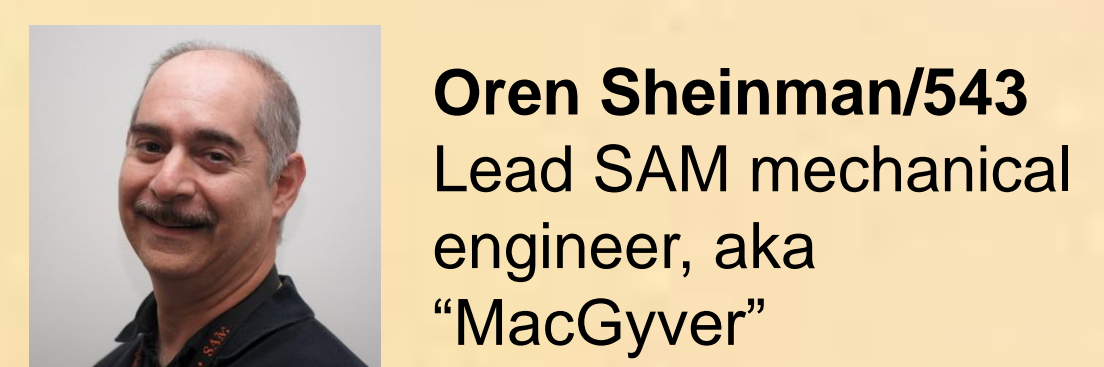
Jeff Mobley/540-QINETIQ
Engineering technician,
hardware cleaning and
contamination control



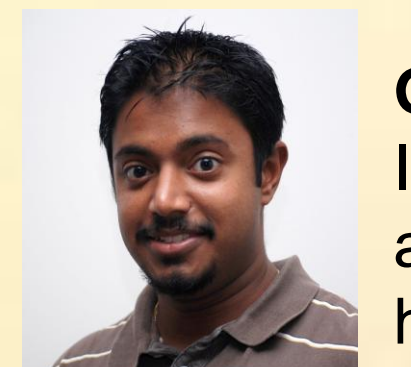
Benny Prats/699-SGT
Thermal systems,
design, test, and
integration of heaters
and sensors



Greg Frazier/460
Engineering Project
Management, SAM



Oren Sheinman/543
Lead SAM mechanical
engineer, aka
"MacGyver"

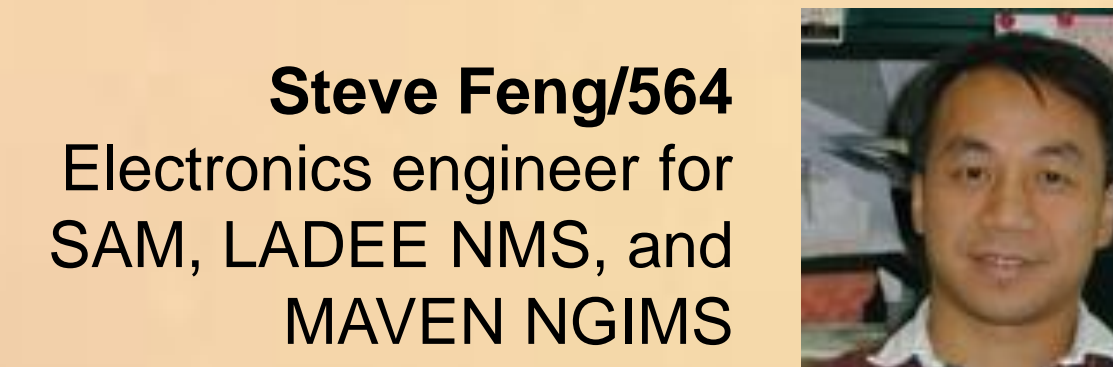


**Cindy Gundersen/AMU
Engineering**
Lead mechanical engineer
on SAM gas processing
and QMS subsystems

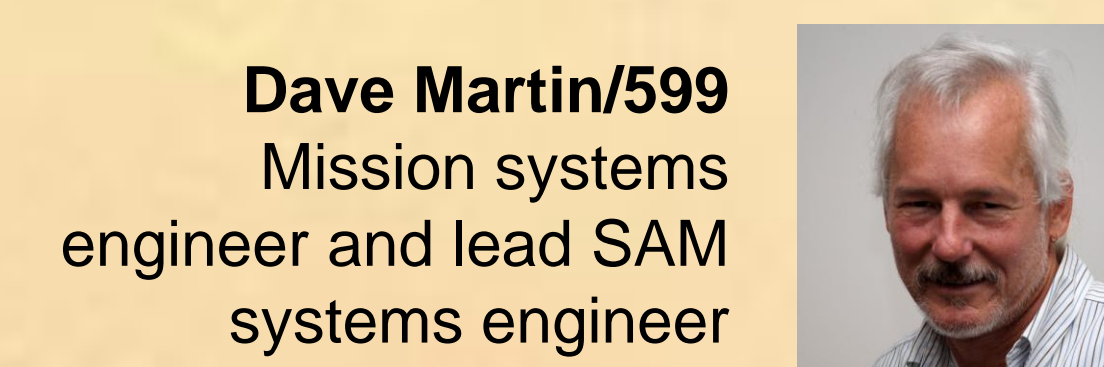


**John Westberg/699-
Honeywell**
Principal engineer, lab
supplies, parts ordering
and shipping, lab safety

Ray Bendt/699-Honeywell
Lead parts manufacturer and
expert machinist, aka "Mr.
Hole in 1"



Steve Feng/564
Electronics engineer for
SAM, LADEE NMS, and
MAVEN NGIMS



Dave Martin/599
Mission systems
engineer and lead SAM
systems engineer



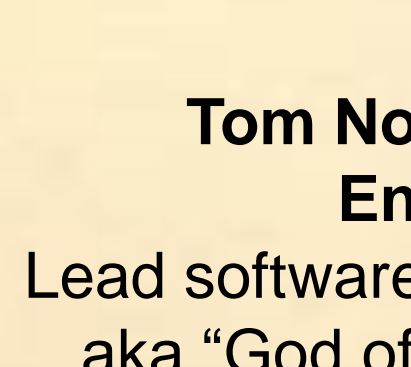
Doug McLennan/420
SAM Project
Management, aka "Mr.
Halloween"



Mark Cascia/556
Systems engineer, system
requirements, validation
and operation concept



**Hasso Niemann/699-
Emeritus**
Instrument scientist and
flight quadrupole mass
spectrometer design



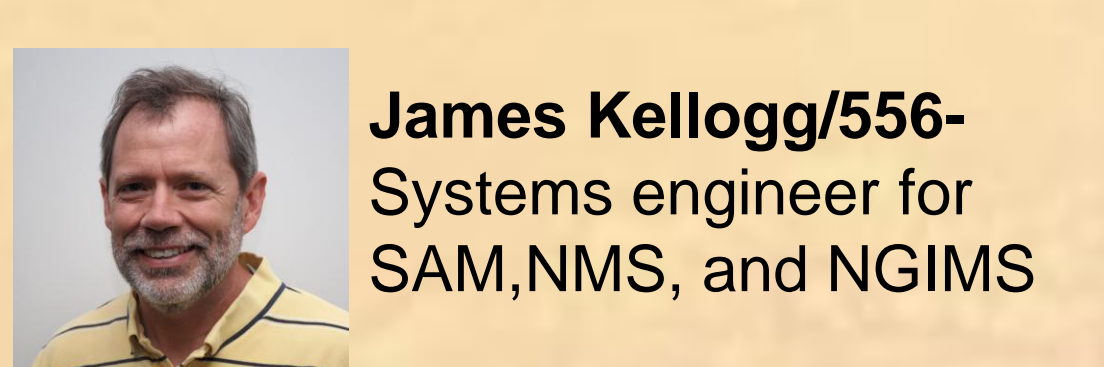
**Tom Nolan/Nolan
Engineering**
Lead software engineer,
aka "God of Software"



Bob Abell/544
Former engineering technician
and master of e-beam welding,
aka "the Legend"



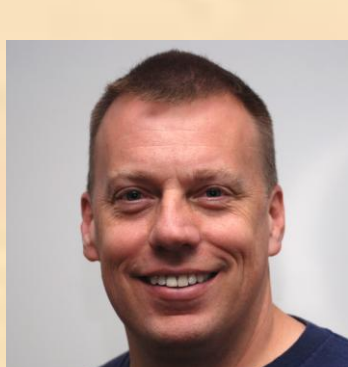
Stephanie Getty/541
Engineer, lead time of
flight mass spectrometer
development



James Kellogg/556-
Systems engineer for
SAM, NMS, and NGIMS



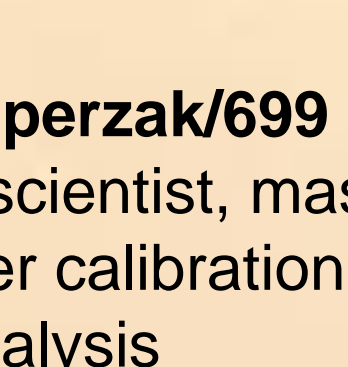
**Chris Johnson/699-
Bastion**
Project engineer, SAM
environmental testing,
aka "the Chamber Maid"



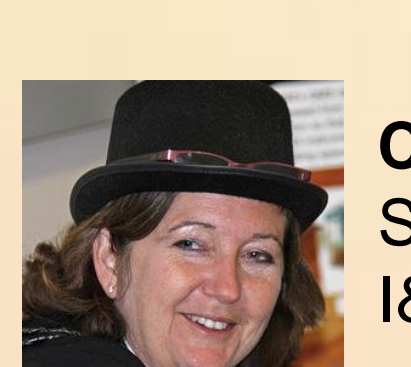
Debbie Hinkle/101
Resources manager,
SAM resource analyst



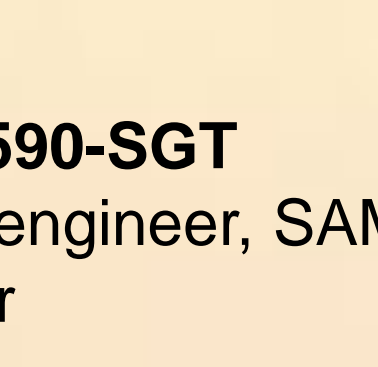
Wayne Kasperzak/699
Instrument scientist, mass
spectrometer calibration
and data analysis



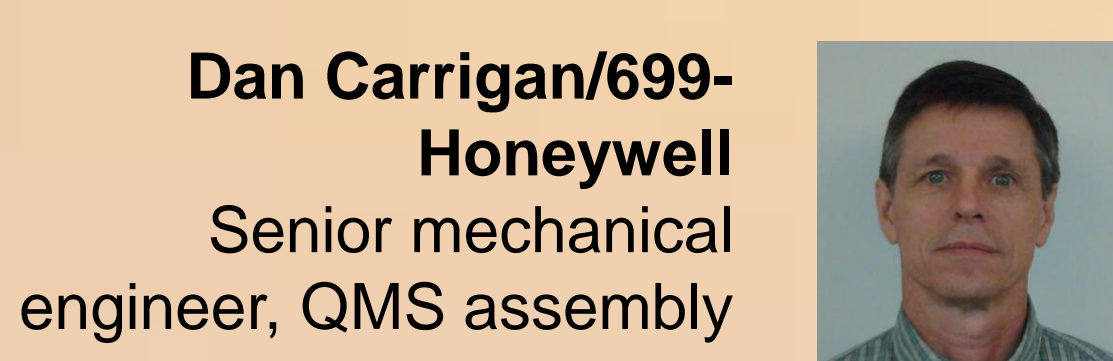
John Maurer/SPRL
Electronics engineer,
aka "the quite one"



Carol Lilly/590-SGT
Senior staff engineer, SAM
I&T engineer



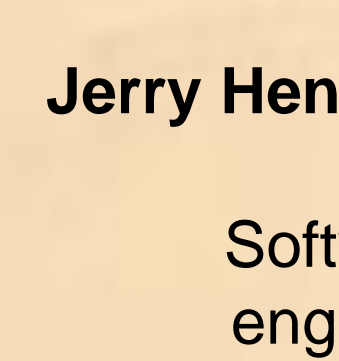
Steve Cagiano/544
Aerospace engineering
technician, hardware
machinist



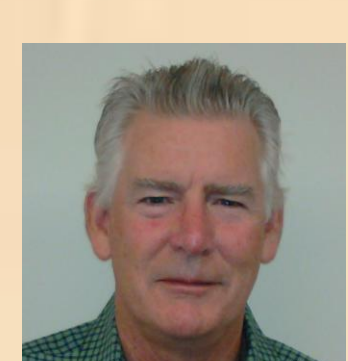
**Dan Carrigan/699-
Honeywell**
Senior mechanical
engineer, QMS assembly



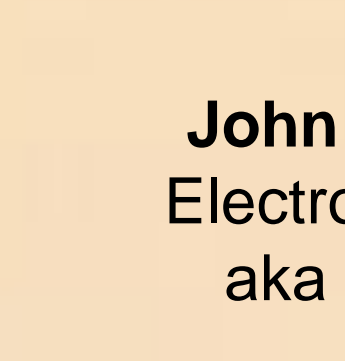
Jim Smith/KSC
Senior mechanical engineer,
microvalve design and test



**Jerry Hengemihle/590-
Microtel**
Software systems
engineer for SAM



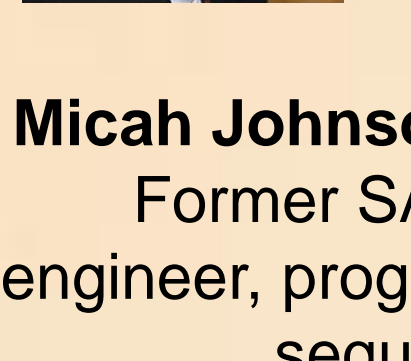
Andrew Jones/544
Aerospace engineer, high
conductance valves



Kyle Gregory/584
SAM electronics engineer
for harness and testing



Pat Jordan/544-Engineer
SAM pyrolysis oven
design and testing



Micah Johnson/556-SGT
Former SAM software
engineer, programmer and
sequence scripts



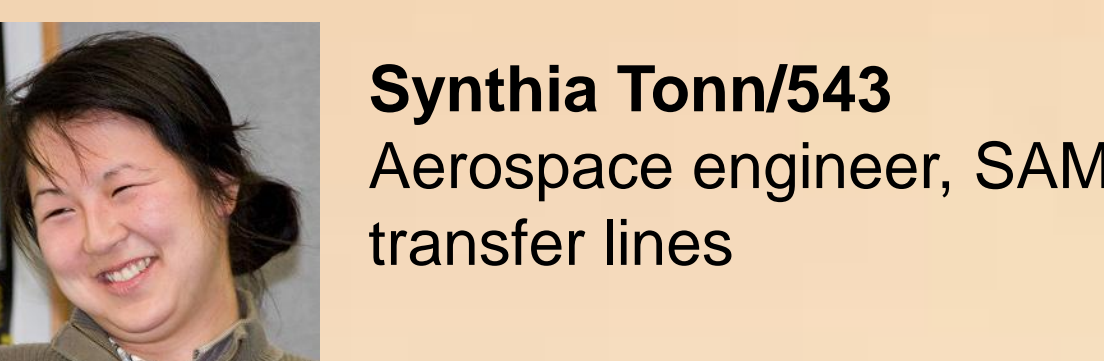
Irving Linares/564
Electronics engineer, SAM
electrical lead



Jamie Demick-Montelara
Former SAM calibration
lead, I&T engineer



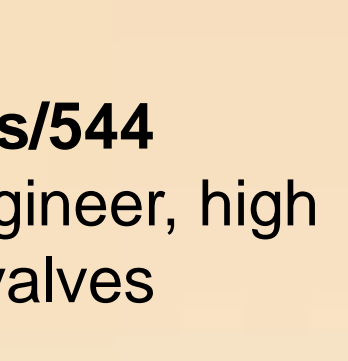
Paula Everson/432
Requirements manager,
systems engineer, aka "the
WOA lady"



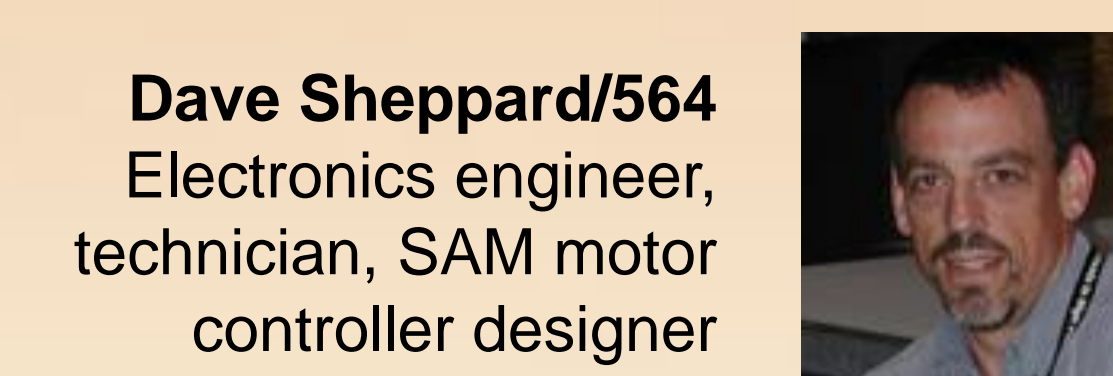
Synthia Tonn/543
Aerospace engineer, SAM
transfer lines



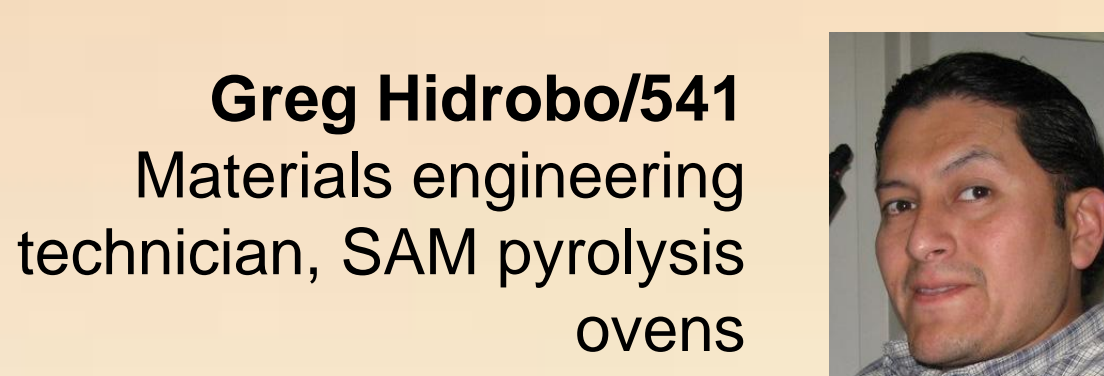
Therese Errigo/546
Lead SAM contamination
engineer



Jesse Lewis/543
Aerospace engineer, Lead
SAM solid sample inlet design
and testing



Dave Sheppard/564
Electronics engineer,
technician, SAM motor
controller designer



Greg Hidrobo/541
Materials engineering
technician, SAM pyrolysis
ovens



Rodger Farley/543
Aerospace engineer,
SAM inlet design, WRP's,
capillary heaters

Significant contributions to many mass spectrometer projects from Battell Engineering, University of Michigan Space Physics Laboratory, AMU Engineering, Honeybee Robotics and many others....

Other Team Members (No Photo)

Christa Budinoff/Visioneering-mechanical designer
Rudy Foxwell/540-Jackson&Tull-laboratory technician
Steve Battell/Battell Engineering-electronics hardware
Erik Mumm/Honeybee Robotics-sample manipulation system
John Bichell/555-mechanical engineering technician
Nick Kwiatkowski/540-QINETIQ-engineering technician
Janelle Vorreiter/545-Orbital - thermal analyst
Lars Hovmand/590-SGT-engineer
Ryan Miller, Ken Arnett, Curt Cooper (Univ. of Michigan Space Physics Laboratory)-electronics hardware
Carol Mosier/545-thermal engineer
Ray Trunzo/545-Edge Space Systems-thermal integration
Dan Powers/545-thermal engineer, TECs for SAM traps
Keith Corsi/300-Honeywell, SAM quality assurance
Joyce Manning/300-Honeywell, quality engineer